REMARKS

The present Amendment amends claims 7-9 and cancels claim 10. Therefore, the present application has pending claims 7-9.

In paragraph 3 of the Office Action the Examiner indicated that the Information Disclosure Statement filed on February 12, 2002 fails to comply with 37 CFR §1.98(a)(2) which require a legible copy of each cited foreign document. Filed on even date herewith is an Information Disclosure Statement submitting a listing of references submitted by the February 12, 2002 Information Disclosure Statement and copies of said references. An indication that said Information Disclosure Statement has been considered is respectfully requested.

Claim 9 stands rejected under 35 USC §112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regards as their invention. Various amendments were made throughout claim 9 to bring it into conformity with the requirements of 35 USC §112, second paragraph. Therefore, this rejection is overcome and should be withdrawn.

Claims 7-10 stand rejected under 35 USC §102(e) as being anticipated by Watanabe (U.S. Patent No. 6,748,502). As indicated above, claim 10 was canceled. Therefore, this rejection with respect to claim 10 is rendered moot. This rejection with respect to the remaining claims 7-9 is traversed for the following reasons. Applicants submit that the features of the present invention as now more clearly recited in claims 7-9 are not taught or suggested by Watanabe whether taken individually or in combination with any of the other

references of record. Therefore, Applicants respectfully request the Examiner to reconsider and withdraw this rejection with respect to claims 7-9.

Amendments were made to the claims so as to more clearly described features of the present invention are not taught or suggested by any of the references of record whether taken individually or in combination with each other. Particularly, amendments were made to the claims to more clearly describe the features of the present invention as illustrated, for example, in Fig. 1 of the present application.

The present invention as recited in the claims and as illustrated in Fig. 1 provides an operating/managing method in an operating/managing system of storage apparatuses. The operating/managing method of the present invention includes connecting at least two storage apparatuses via at least two storage apparatuses connecting means of the operating/managing system with a computer, wherein the at least two storage apparatuses includes a storage apparatus being in use at present, and wherein the at least two storage apparatuses connecting means establishes connections with the at least two storage apparatuses respectively, causing a storage apparatus to be specified, the storage apparatus being in use at present, holding the address information of the specified storage apparatus in storage apparatus information holding means of the operating/managing system and holding each property of the at least two storage apparatuses connected to the at least two storage apparatuses connecting means in property holding means of the operating/managing system.

Further, according to the present invention as recited in the claims the operating/managing method includes causing a property to be specified, a

storage apparatus to be used next being requested to satisfy the property, causing a particular storage apparatus to be selected from among candidates of storage apparatuses indicated from the operating/managing system in accordance with the specified property and the each property of the storage apparatuses stored in the property holding means, holding the address information of the selected storage apparatus to be used next in the storage apparatus information holding means in addition to the address information of the storage apparatus being in use at present, requesting the selected storage apparatus to create a volume and instructing the selected storage apparatus to start duplication of data.

Still further, according to the present invention as recited in the claims the connection destination switching means of the operating/managing system creates a copy of data sent from the computer and changes source address and destination address of the copy data to the address of corresponding storage apparatus connecting means and the address of the selected storage apparatus to be used next respectively in order for the operating/managing system to communicate with the selected storage apparatus and write the copy data into the selected storage apparatus, information duplicating means of the operating/managing system controls reading out of data from the storage apparatus being in use at present and writing in of the data into the storage apparatus to be used next based on the address information held in the storage apparatus information holding means.

As illustrated in Fig. 1, the operating/managing system 500 of the present invention is located between the computer 12 and SSPs 30a to 30c. The operating/managing system is able to establish communication with each

storage apparatus of a plurality of SSPs by plural connecting units 51a – 51c and controls communication paths between the computer and each the storage apparatus. Further, the operating/managing system 500 includes storage apparatus information holding unit 58, connection destination switching unit 520, property holding units 52a - 52c and information duplicating unit 510. The first step as per the present invention of "connecting at least two storage apparatuses via at least two storage apparatuses connecting means of said operating/managing system ...two storage apparatuses respectively" is illustrated in Fig. 1 and described in relevant descriptive portions such as page 10, lines 3 to 6, page 16 line 7 to page 18 line 6 where plural connecting units 51a – 51c establish connections to respective storage apparatuses of the SSPs.

The third step of the present invention of "holding the address information of the specified storage apparatus in storage apparatus information holding means of said operating/managing system", the storage apparatus information holding unit 58 holds address information of the storage apparatus being in use at present is illustrated in Fig. 5 (please see in-use storage apparatus) and described in page 4, lines 6 to 9, page 14, line 28 to page 15 line 9 of the present application.

The fourth step of the present invention of "holding each property of said at least two storage apparatuses connected to said at least two storage apparatus connecting means in property holding means of said operating/managing system", the property holding units 52a – 52c hold the property (i.e., information on the performance, the price, the reliability, and the like) of the respective storage apparatuses connecting to the connecting units

51a – 51c is described on page 4 lines 3 to 6, page 12 lines 19 to 23, page 13 lines 10 to 13, for example of the present application.

The fifth and sixth steps of the present invention, wherein an user specifies property which is required of a storage apparatus to be used next, and that from the property of each storage apparatus held in the property holding means, the user can select appropriate one among a plurality of storage apparatuses (candidates of storage apparatuses) which have establishment of communication with the operating/managing system via respective storage apparatus connecting means as described in detail with respect to the steps of specifying a property to be required and selecting a storage apparatus to be used next as per item "(8) inputting of request properties and indication of candidates" on page 18 line 20 to page 20 line 20 of the present application and the item "(9) screen for selection and decision of switching over" on page 20 line 21 to page 23 line 10 of the present application.

The above described features of the present invention now more clearly recited in the claims are not taught or suggested by any of the references of record particularly Watanabe whether taken individually or in combination with each other.

Watanabe teaches a system for providing a data storage service having a service provider site configured to provide a data storage service and user site coupled by a wide area network to the service provider site. As taught by Watanabe, the user site includes a local storage having a virtual storage wherein the virtual storage has synchronous volume and asynchronous volume and is configured to immediately transmit to the service

provider site data that is written in the synchronous volume and to transmit a predetermined schedule to the service provider site data that is written in the asynchronous volume and to read data from the service provider if the data is not stored in the local storage.

Thus, as is clear from the above, Watanabe fails to teach or suggest the numerous features of the present invention as now more clearly recited in claims. For example, Watanabe does not teach or suggest the above steps of holding the property of each storage apparatus connecting to the operating/managing system, causing a property to be specified where the property is required for the next storage apparatus and causing an appropriate storage apparatus to be selected among the plural storage apparatus connecting to the operating/managing system based on the property held in the property holding means as recited in the claims.

The seventh to the final steps of the present invention, provides that the address information of the storage apparatus is held in the storage apparatus information holding means in addition to the address information of the storage apparatus being in use at present as illustrated in the Fig. 5 (please see migration destination storage apparatus) and described in page 4, lines 6 to 9, page 14, line 28 to page 15 line 9 of the present application.

As disclosed in the present application, the connection destination switching means 520 controls path between the computer 12 and the objective storage apparatus (the storages apparatus being in use at present and the storage apparatus to be used next), and also the connection destination switching means 520 makes a internal path between the storages apparatus being in use at present and the storage apparatus to be used next.

More specifically, when the connection destination switching unit 520 receives data from the computer 12 to the currently used storage apparatus, it substitutes the source address (the address of the computer 12) of the data by the address of the storage apparatus connecting unit 51a in order for the operating/managing system 500 to receive a response from the storage apparatus (SSP 30a) via the storage apparatus connecting unit 51a as described in page 16 line 22 to page 18 line 6. Next, as described in page 26 line 9 to page 27 line 8, a copy data is created from the original data sent from the computer 12, the source address of the copy data is replaced by the address of the storage apparatus(SSP 30a) and further the destination address of the copy data is replaced by the address of the storage apparatus(SSP 30b) to allow the same data from the computer is written into the storage apparatus (SSP 30b) in addition to the storage apparatus (SSP 30a). The destination address of response data sent from the storage apparatus (SSP 30a) via the storage apparatus connecting means 51a is substituted by the address of the computer 12 to make a path between the computer and the storage apparatus(SSP 30a) as described in page 27 lines 4 to 27.

As per the present invention, in order to duplicate data in the selected storage apparatus, information duplicating means 510 is provided in the operating/managing system. The information duplicating means 510 is used for controlling reading-out of information stored in the storage apparatus being in use at present and writing-in of the information read out from the storage apparatus being in use at present into said storage apparatus to be used next

on the basis of the address information held in the storage apparatus information holding means as described in Page 28 line 2 to page 29 line 2.

Watanabe does not teach or suggest the above described features of the present invention as recited in the claims with respect to the seventh to the final steps.

Thus, as per the above, it is quite clear that Watanabe may teach the copying of data into virtual volume storage located at the user site received from volume storages located in the service provider site as illustrated, for example, in Fig. 1 thereof. However, at no point is there any teaching or suggestion in Watanabe of the storing of property of each storage apparatus connecting to the interim operating/managing system located between the storage apparatuses and the computer into property holding means and causing a property to specified by a user in a particular storage apparatus to be selected among the plural storage apparatuses connecting to the operating/managing system as in the present invention as recited in the claims.

Further, there is no teaching or suggestion in Watanabe of the connecting destination switching means and the duplicating means to distribute data from the computer to both storage apparatuses being in use at present and to be used next and to copy duplicate data into the selected storage apparatus to be used next as in the present invention as recited in the claims.

Thus, Watanabe fails to teach or suggest connecting at least two storage apparatuses via at least two storage apparatuses connecting means of the operating/managing system with a computer, wherein the at least two

storage apparatuses include a storage apparatus being in use at present, the at least two storage apparatuses connecting means establish connections with the at least two storage apparatuses respectively, causing a storage apparatus to be specified, the storage apparatus being in use at present, holding the address information of the specified storage apparatus in storage apparatus information holding means of the operating/managing system and holding each property of the at least two storage apparatuses connected to the at least two storage apparatus connecting means in property holding means of the operating/managing system as recited in the claims.

Further, Watanabe fails to teach or suggest causing a property to be specified, a storage apparatus to be used next being requested to satisfy the property, causing a particular storage apparatus to be selected from among candidates of storage apparatuses indicated from the operating/managing system in accordance with the specified property and the each property of the storage apparatuses stored in the property holding means, holding the address information of the selected storage apparatus to be used next in the storage apparatus information holding means in addition to the address information of the storage apparatus being in use at present, requesting the selected storage apparatus to create a volume and instructing the selected storage apparatus to start duplication of data as recited in the claims.

Still further, Watanabe fails to teach or suggest that the connection destination switching means of the operating/managing system creates a copy of data sent from the computer and changes source address and destination address of the copy data to the address of corresponding storage apparatus connecting means and the address of the selected storage

apparatus to be used next respectively in order for the operating/managing system to communicate with the selected storage apparatus and write the copy data into the selected storage apparatus, information duplicating means of the operating/managing system control reading out of data from the storage apparatus being in use at present and writing in of the data into the storage apparatus to be used next based on the address information held in the storage apparatus information holding means as recited in the claims.

Therefore, Watanabe fails to teach or suggest the features of the present invention as now more clearly recited in the claims. Accordingly, reconsideration and withdrawal of the 35 USC §102(e) rejection of claims 7-9 as being anticipated by Watanabe is respectfully requested.

The remaining references of record have been studied. Applicants submit that they do not supply any of the deficiencies noted above with respect to the reference utilized in the rejection of claims 7-9.

In view of the foregoing amendments and remarks, applicants submit that claims 7-9 are in condition for allowance. Accordingly, early allowance of claims 7-9 is respectfully requested.

To the extent necessary, the applicants petition for an extension of time under 37 CFR 1.136. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, or credit any overpayment of fees, to the deposit account of MATTINGLY, STANGER, MALUR & BRUNDIDGE, P.C., Deposit Account No. 50-1417 (500.41184X00).

Respectfully submitted,

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